



## What is Mobileye? A Guide to ADAS Systems

Many car manufacturers around the world have integrated ADAS (Advanced Driver Assistance Systems) into their vehicles in recent years. Have you ever wondered where these car technology systems come from and what they do? One of the leading providers of ADAS systems is Mobileye. Mobileye leads the ADAS market and is constantly innovating to create safer driving experiences for everyone. Below, we will explore what Mobileye is, how it works, and its impact on the automotive industry.

### What is Mobileye?

Have you ever wondered how modern cars are becoming smarter and safer by the day? **Mobileye** is an Israeli technology company that's been at the forefront of revolutionizing vehicle safety and paving the way for autonomous driving. Founded in 1999 by Professor Amnon Shashua and Ziv Aviram, Mobileye specializes in advanced driver-assistance systems (ADAS) that use cutting-edge computer vision and machine learning to interpret the road. In simple terms, Mobileye develops the "eyes" of the car, enabling it to understand its surroundings just like a human driver would.

But why is Mobileye so significant? Well, their technology isn't just about convenience—it's about saving lives. Road accidents claim thousands of lives every year, and Mobileye's mission is to significantly reduce that number. By providing systems that can detect potential hazards, warn drivers, and even take corrective action, Mobileye is making our roads safer for everyone. Their innovations are stepping stones toward fully autonomous vehicles, which could transform how we think about transportation.

### Mobileye's Role in ADAS Innovation

Mobileye didn't become a leader in ADAS overnight. The company's journey is a story of relentless innovation and strategic partnerships. In 2017, Intel Corporation recognized Mobileye's potential and **acquired the company** for approximately \$15.3 billion. This acquisition wasn't just a big deal financially; it signaled the importance of ADAS technology in the future of the computing and automotive industries. Mobileye's technology is now integrated into vehicles from some of the world's largest automakers. Companies like BMW, Audi, General Motors, Ford, Nissan, and Honda have partnered with Mobileye to equip their cars with advanced safety features. New cars can now warn you about potential collisions, keep you within your lane, and recognize traffic signs—all thanks to Mobileye. These partnerships have allowed Mobileye to refine its technology **across different vehicle models** and driving conditions, benefiting millions of drivers globally. But Mobileye isn't stopping there. They've also collaborated with ride-sharing services like Lyft to explore autonomous ride-hailing services.

## Overview of Mobileye SuperVision

Now, let's dive into one of Mobileye's most exciting offerings: **Mobileye SuperVision™**. You might be wondering, what exactly is SuperVision? Simply put, it's an advanced driver-assistance system that brings us a significant step closer to hands-free, autonomous driving. SuperVision combines multiple cameras and sensors to provide a 360-degree perception of the vehicle's surroundings. This comprehensive view allows the system to handle complex driving tasks, such as navigating highways, changing lanes, and responding to traffic conditions—all with minimal driver intervention.

SuperVision isn't just a concept; it's a practical solution that's already making its way into consumer vehicles. The system leverages Mobileye's latest EyeQ® chips, which are specialized processors designed to handle the massive computational demands of real-time image processing and decision-making.

## Key Features of Mobileye SuperVision

So, what makes Mobileye SuperVision stand out? Let's explore some of its key features:

1. **Hands-Free Driving on Specific Roads:** SuperVision allows for hands-free driving on pre-mapped highways and roads. Using high-definition maps and real-time sensor data, the system can handle steering, acceleration, and braking without constant driver input.
2. **360-degree Environmental Perception:** With multiple cameras placed around the vehicle, SuperVision creates a complete view of the surroundings. This holistic perspective allows for informed driving decisions, such as detecting vehicles in blind spots or anticipating sudden lane changes by other drivers.
3. **Advanced Object Recognition:** SuperVision uses deep learning algorithms to identify and classify objects like cars, pedestrians, cyclists, and even road signs. This capability enables the system to react appropriately to various road scenarios, enhancing safety.
4. **Adaptive Cruise Control** and Lane Keeping: The system can maintain a safe distance from the vehicle ahead and keep the car centered within its lane. It adjusts speed based on traffic conditions and can handle stop-and-go traffic seamlessly.
5. **Automated Lane Changing:** SuperVision isn't limited to staying within a lane; it can also perform automated lane changes. By assessing the traffic environment, it determines the optimal time to switch lanes safely.
6. **High-Definition Mapping with REM™: Mobileye's Road Experience Management (REM™)** technology collects data to create high-definition maps

essential for autonomous driving. These maps are continuously updated; the system has the most current information about road layouts and conditions.

7. Redundancy and Safety Protocols: Safety is paramount in any driving system. SuperVision incorporates multiple layers of redundancy; if one component fails, others can compensate to maintain safe operation.

By integrating these features, Mobileye SuperVision offers a comprehensive ADAS package that has made waves in the automotive industry.

## The Future of Autonomous Driving with Mobileye

Looking ahead, Mobileye is poised to play a significant role in shaping the future of autonomous driving.

### Technological Advancements

Mobileye is investing heavily in developing technologies that support higher levels of vehicle autonomy, specifically **SAE Levels 3 to 5**. This means vehicles that can handle most driving tasks independently, with little to no human intervention.

One of the key components in this endeavor is the continued development of the EyeQ® chip series. The latest in the lineup, such as the EyeQ5 and EyeQ6, are designed to provide the computational horsepower needed for full autonomy. These chips can process vast amounts of data from cameras, radar, and lidar sensors in real time, enabling the vehicle to make complex decisions quickly.

Mobileye is also expanding its mapping capabilities through REM™ technology. By collecting data from millions of vehicles equipped with their systems, they're building detailed, up-to-date maps that are needed for autonomous navigation.

### Impact and Sustainability

Mobileye is working closely with automakers and technology companies to bring autonomous vehicles to market. Their partnerships extend to companies like [Geely Auto Group in China](#), where they're collaborating to develop vehicles with advanced autonomous capabilities tailored for specific markets.

Mobileye is also engaging with governments and regulatory bodies to shape policies that support the safe deployment of autonomous vehicles. They understand that technology alone isn't enough; regulatory frameworks need to evolve to accommodate these advancements.

In addition to this, sustainability is becoming an increasingly important focus.

Mobileye knows that autonomous vehicles can contribute to more efficient transportation systems, reducing traffic congestion and lowering emissions.

All in all, Mobileye's vision for the future involves fostering collaborations and policies that will make autonomous driving a reality. They're committed to making our roads safer, our journeys more efficient, and our impact on the planet more sustainable.

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Mobileye is positioned as a leader in the ADAS market due to its cutting-edge technology and innovative solutions. As more of its tech continues to be integrated into vehicles, it is important for drivers and service providers to have access to reliable calibration centers.

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